

Appl. No. : 09/973,844
Filed : October 9, 2001

REMARKS

With this amendment, Claims 55-57 and 59-85 are pending in the present application. Claims 1-39 and 58 have been canceled. Claim 55 has been amended. Claims 60-85 have been added. In view of the foregoing amendment and the following remarks, Applicant respectfully requests reconsideration and allowance of this application.

Examiner Interview

Applicant would like to thank the Examiner for the courtesies extended to Applicant and Applicant's representative during the personal interview of November 13, 2003. The amendments are consistent with the discussions in the interview.

Objections to the Specification

The Examiner objected to the disclosure because of certain informalities. Specifically, the Examiner requested that Applicant provide the serial number of the application cited in the disclosure. Pursuant to the Examiner's request, Applicant has amended the specification to include the serial number of the application. Accordingly, Applicant respectfully requests withdrawal of this objection.

Claim Rejections-35 U.S.C. §112

The Examiner rejected Claim 15 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully submits that this rejection is moot in view of Applicant's cancellation of Claim 15 by this amendment.

Claims 55-59 Rejections-35 U.S.C. §102(b)

The Examiner rejected Claims 55, 58, and 59 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,002,620 to King. Applicant has amended independent claim 55 to recite the density of the first component to be in the range of between about 53 to 115 lb/ft³, which Applicant believes is a limitation that is clearly absent in King. (See, e.g., Claim 55 as amended)

As discussed in the Examiner interview, the King reference discloses a fiber-cement material with different mechanical and physical properties as compared to Applicant's claimed invention. Specifically, King discloses a concrete block having a normal weight material portion positioned adjacent to a lightweight core having a density range from 26 to 80 lb/ft³. (See, e.g.,

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column 3, lines 16-20 of King) In contrast, fiber cement materials made in accordance with the formulation range and manufacturing methods described in Applicant's specification typically have a density range of between about 53 to 115 lb/ft³, which is a much higher density range than the core of the concrete block disclosed in King. It is generally known that higher density will in turn result in higher tensile and compressive strengths. As such, Applicant's building material is likely to have significantly higher tensile and compressive strengths than what is disclosed in King.

In fact, the heavier (exterior) fraction of the concrete block disclosed in King achieves a crushing (compressive) strength of about 2,000 to 6,000 psi. (*See, e.g.*, column 4, lines 43-45 of King) This typically correlates to a tensile strength of between 1.5 to 4.1 Mpa for normal concrete. In contrast, Applicant's fully cured fiber cement exterior "skins" can have a much higher tensile strength, about 6 Mpa as in one example shown in table 1 on page 9 of the disclosure. Applicant's claimed building material has a much density than the concrete block disclosed in King, which leads to superior physical and mechanical properties. Accordingly, Applicant respectfully submits that independent Claim 55 and the claims depend therefrom are allowable over King.

Claims 60-85

Applicant has added new claims 60-85 to further distinguish Applicant's invention from the cited references. With regards to independent Claim 60, Applicant added the limitation that the first component contains a fiber percentage of between about 5-12 wt.%, which Applicant has found to impart favorable physical and mechanical properties to the final product. Applicant also notes that none of the cited references, including Soroushian, recites a fiber cement component having this particular fiber range. While Soroushian teaches the use of individualized cellulose fibers, it discloses cement mixtures containing fibers in a quantity ranging from 0.3 to 30 kg/m³. (*See, e.g.*, Soroushian Abstract) Taking the maximum value 30 kg/m³ and converting this from weight of fibers per volume of mixture basis to weight of fiber per weight of mixture basis, one would arrive at about 3.3% fibers for mixtures weighing 900 kg/m³, which represents a lower fiber content than what is recited in Claim 60. Thus, Applicant respectfully submits that independent Claim 60 and the claims depending therefrom are patentable over the art of record.

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With regards to Claim 81, Applicant has incorporated the limitation of the core having a plurality of vertical symmetrically opposed corrugated core layers, which the Examiner seem to indicate in the Office Action that it would be patentable. Applicant has also added independent Claim 82, which is directed toward the feature that only the second component extends into the first component to form a bond therebetween. Applicant notes that none of the references cited by the Examiner appears to show this feature. Thus, Applicant respectfully submits that independent Claim 82 and the claims depending therefrom are patentable over art of record.

CONCLUSION

In view of the foregoing, Applicant respectfully submits that all pending claims, including the newly added Claims 60-85, of the present application are in condition for allowance, and such action is earnestly solicited. Should there be any impediments to the prompt allowance of this application that could be resolved through a telephone conference, the Examiner is respectfully requested to call the undersigned at the number shown below. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 11/21/2003

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